

Claims

What is claimed is:

- [c1] A braze alloy, comprising:
at least one selected from the group of indium (In) and thallium (Tl).
- [c2] A braze alloy, comprising:
about 0.5% to about 10% by weight of at least one selected from the group of
indium (In) and thallium (Tl).
- [c3] The alloy of claim 2, further comprising gallium.
- [c4] The alloy of claim 2, further comprising at least one selected from the group of
silver, copper, tin, and zinc.
- [c5] The alloy of claim 2, further comprising silver in an amount of at least 40% by
weight.
- [c6] The alloy of claim 2, further comprising copper in an amount of at least about 10%
by weight.
- [c7] The alloy of claim 2, further comprising zinc in an amount of at least about 6% by
weight.
- [c8] The alloy of claim 2, further comprising tin in an amount of at least about 2% by
weight.
- [c9] The alloy of claim 2, wherein the alloy comprises between about 1% and about
8% of at least one selected from the group of indium (In) and thallium (Tl).
- [c10] The alloy of claim 2, wherein the alloy comprises between about 2% and about
5% of at least one selected from the group of indium (In) and thallium (Tl).

- [c11] The alloy of claim 2, wherein the alloy comprises around 3% of at least one selected from the group of indium (In) and thallium (Tl); and the alloy further comprises around 56% by weight silver, around 19% by weight copper, around 17% by weight zinc, and around 5% by weight tin.
- [c12] The method of claim 2, wherein the at least one selected comprises indium (In).
- [c13] The method of claim 2, wherein the at least one selected comprises thallium (Tl).
- [c14] A silver based braze alloy for brazing cutting elements to a cutting structure of a downhole drilling tool, comprising:
at least about 40% by weight silver, and
about 0.5% to about 10% by weight of at least one selected from the group of
indium (In) and thallium (Tl).
- [c15] The alloy of claim 1, further comprising gallium.
- [c16] The alloy of claim 12, further comprising at least about 10% by weight copper.
- [c17] The alloy of claim 12, further comprising at least about 6% by weight zinc.
- [c18] The alloy of claim 12, further comprising at least about 2% by weight tin.
- [c19] The alloy of claim 12, wherein the alloy comprises between about 1% and about 8% of at least one selected from the group of indium (In) and thallium (Tl).
- [c20] The alloy of claim 19, wherein the alloy comprises around 3% of at least one selected from the group of indium (In) and thallium (Tl); and the alloy further comprises about 56% by weight silver, around 19% by weight copper, around 17% by weight zinc, and around 5% by weight tin.